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ABSTRACT

This report summarizes and integrates the finding of research studies dealing with the military General Educational Development (GED) program. The major areas covered include (1) the field conduct of the GED program, (2) characteristics of GED program participants, (3) a comparison of the utility of the GED certificate with that of the high school diploma, both inservice and postservice, and (4) the impact of attaining a GED certificate. Specific findings are presented in each of the major areas discussed. Following are the overall findings presented: (1) GED program participants had lower average aptitude scores than high school diploma holders, but higher ones than nonparticipant nongraduates. (2) A higher proportion of certificate holders planned service careers in comparison with their peers. They had higher pay grades at separation than noncertificate holders, but lower ones than diploma holders. (3) The GED certificate was regarded less highly than the high school diploma, but was perceived of considerable value in both inservice and postservice environments. This was particularly true for inservice where the certificate was accepted officially as meeting the requirements for a secondary education credential. (4) The impact of receiving a certificate was reported to be favorable by both certificate holders and noncertificate holders. The major effects of receiving a certificate were seen as increased confidence in personal ability and increased feelings of general well-being. (Author)

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SUMMARY OF RESEARCH FINDINGS ON THE MILITARY GENERAL EDUCATIONAL DEVELOPMENT PROGRAM

By
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PERSONNEL RESEARCH DIVISION
Lackland Air Force Base, Texas 78236

December 1976

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This report summarizes and integrates the findings of research studies dealing with the military General Educational Development (GED) program. The major areas covered include: (1) the field conduct of the GED program, (2) characteristics of GED program participants, (3) a comparison of the utility of the GED certificate with that of the high school diploma both in-service and post-service, and (4) the impact of attaining a GED certificate.

The findings show that GED program participants had lower average aptitude scores than high school diploma holders, but higher ones than non-participant non-graduates. A higher proportion of certificate holders planned

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service careers in comparison with their peers. They had higher pay grade at separation than non-certificate holders but lower ones than diploma holders.

The GED certificate was regarded less highly than the high school diploma, but was perceived to have considerable value in both in-service and post-service environments. This was particularly true in-service where the certificate was accepted officially as meeting the requirements for a secondary education credential.

The impact of receiving a certificate was reported to be favorable by both certificate holders and non-certificate holders. The major effects of receiving a certificate were seen as increased confidence in personal ability and increased feelings of general well-being.

PREFACE

Since the outbreak of World War II, the Department of Defense has been the single largest user of the nation's young male manpower resources. The new accession groups, 17 through 20 years of age, are at a very critical phase in developing goals and aspirations in the educational, occupational, and personal domains. These young men, while not completely at the mercy of their environment, are greatly influenced by it. Thus, the military services, through their recruitment, selection and classification procedures, intensive training, and control of much of the environment, have a significant impact on the development of many youthful service members. The tradition of only one tour of duty for the majority of first-termers indicates a significant impact on subsequent civilian behavior in terms of seeking education, choosing an occupation, resolving personal problems, and developing a productive life style. Since a large portion of the nation's adult manpower has had some military experience, the role of the military in shaping many of the aspirations, goals, and behaviors in the larger society must be rated as considerable.

In this view, it appears that the military has an implicit (if not an explicit) responsibility to provide opportunities for growth and development which transcend immediate military needs and take into account the national need for skilled, educated citizens who act responsibly toward and contribute to the society in which they live.

This report addresses only one aspect of the multi-faceted educational programs conducted by the military services. The General Educational Development (GED) program as conducted by United States Armed Forces Institute (USAFI) in the past and now available through state departments of education had a significant impact on the development of the high school non-graduate who entered the service.

Military needs and the needs of society are complementary, not incompatible. Programs in educational and career development can be based on a synthesis of both sets of needs so that, in effect, developmental programs have a dual role of contributing both to the military mission and to society as a whole by upgrading levels of training and education so that the individual can be more effective and more contributary both in the military and the civilian sectors of society. If this can be accomplished, a tour or tours of military duty will no longer represent a hiatus in the life of an individual but will be regarded as an integral part of the continuum that constitutes his life span. As this becomes common knowledge, military service will have a greater appeal for many more individuals, and the military services will have access to a wider range of talents and capabilities.

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SUMMARY OF RESEARCH FINDINGS ON THE MILITARY GENERAL EDUCATIONAL DEVELOPMENT PROGRAM

I. PURPOSE AND BACKGROUND

The purpose of this report is to summarize and integrate the findings of a number of research studies on the General Educational Development (GED) testing program. The primary emphasis is on studies dealing with the programs which were conducted by the military services. In a number of cases, statements are not referenced to specific documents since they represent a synthesis of material from several documents. A complete bibliography of all documents used in the study is listed at the end of the report.

The GED testing program is designed to provide a means through which adults, both military and civilian, who have not obtained high school diplomas, may earn certificates or diplomas by satisfactorily completing the tests. The GED program was originally developed in 1942 as part of a larger program to help World War II veterans resume their interrupted educational and vocational opportunities. Since then, it has been extended to the civilian community and has become the primary vehicle by which high school non-graduates in the Armed Forces could earn the equivalent of a high school diploma.

Until May 31, 1974, GED tests were administered to active duty servicemen by the United States Armed Forces Institute (USAFI). Because USAFI was disestablished on that date, servicemen desiring equivalency certificates or diplomas are now referred to official GED centers, which also administer tests to the civilian community. In 1973, there were 2,130 such centers established by the 50 state departments of education, the District of Columbia, and five U.S. possessions and territories. GED tests also are administered by authorized Veterans Administration hospitals; by state departments of education to patients and inmates in state institutions; by the American Council on Education's (ACE) Office on Educational Credit to (a) American civilian citizens overseas and to foreign nationals, (b) patients and inmates at all federal health and correctional institutions, and (c) the visually handicapped; and by the departments of education in five Canadian provinces. In 1973, these agencies administered GED tests to 440,216 individuals, slightly more than 67 percent of whom met the standards for award of a certificate or a diploma. In this same time period, USAFI awarded 63,000 GED certificates to servicemen.

The tests provide a measurement of equivalence in the areas of English, literature, mathematics, natural science, and social studies. They are intended to measure major generalizations, ideas, and intellectual

skills associated with four years of high school education. Subject content is secondary to the ability to comprehend, evaluate, and reason.

The Educational Testing Service (ETS) under contract to ACE develops and constructs all forms of the GED tests. The tests were normed in 1944, 1955, and 1967. Equating studies were performed in 1967 and 1970 to assure that the various forms of the test yield equivalent scores. Since the five subtests vary in item content, complexity, and number of questions, standard scores rather than raw scores are used. A standard score is a method of assuring that a given numerical score (e.g., 50) has the same meaning on each of the subtests. Using standard scores, a score of 50 represents mean or average performance.

The normative studies and equating projects have shown that approximately 80 percent of the nation's high school seniors met (or exceeded) the criterion of scoring 35 on each subtest or a total score of 225 for all five subtests. When the criterion is changed to require that both conditions be met, that is, a score of 35 on each subtest and an aggregate score of 225, the number of high school seniors meeting the criterion is reduced to approximately 70 percent. The less stringent of the two sets of criteria is recognized by the ACE as the national standard. However, each department of education is invited to develop its own norms since standards of performance for high school graduation may vary from state to state. ACE recommends that the level be such that no more than 80 percent of the high school seniors can achieve it.

Nine state departments of education accept the 35 or 225 level; 34 departments require 35 and 225; the remaining 18 departments have established higher standards. USAFI awarded a certificate of completion to all servicemen who passed at the ACE recommended level. The USAFI certificate was accepted by the services as a high school diploma equivalency credential although it was officially titled a GED Completion Certificate because USAFI did not have accreditation authority. It is worthy of note that in the civilian sector 52 of the 61 departments of education require higher minimum scores than those which had been recognized by DoD.

Service Policies Toward the GED Certificate

In all four services, the GED certificate is accepted in lieu of the high school diploma in personnel actions which may require a secondary education credential. The number of situations in which a credential is actually required is relatively small although there are a larger number in which a credential may be taken into consideration or be of secondary importance. Specific instances in which a credential is required include quotas of high school graduates in recruitment, promotion to pay grades E-6 and above in the Army, and reenlistment eligibility in the Marine

Corps. Instances where a credential may be taken into consideration include classification, job assignment, and, for services other than Army, promotion to senior NCO. In all of these cases, the GED certificate officially is considered the equivalent of the diploma.

II. THE GED PROGRAM IN OPERATION

This section of the report addresses several aspects of the field conduct and operation of the GED program.

Identification of High School Non-graduates

Screening of military personnel to identify and locate high school non-graduates was accomplished by systematic procedures which varied somewhat by installation and, in most cases, more than one procedure was used. The most frequently used procedure was to have all newly assigned personnel report to the education office during in-processing while the second most frequently used was to obtain computer printouts periodically which listed high school non-graduates. The percentages of installations using these procedures were 84 and 65 percent, respectively. Other procedures used were having the staff of the educational office screen records (46%); having the personnel office screen all records (32%); and having the personnel section screen only records of newly assigned personnel (17%). Seven percent of the educational services officers reported that they had no special procedures.

Once high school non-graduates were identified, a number of different approaches were used to contact them with some education offices using more than one approach. Seventy-one percent of the education officers reported that they requested the non-graduates' supervisors to instruct them to report to the education office, and 70 percent reported using announcements in bulletins, newspapers, and other media. Letters were sent to individual non-graduates by 56 percent of the offices, and 43 percent made announcements at military formations. No formal procedures were followed by 12 percent of the offices.

Initial Familiarization with the Program

Servicemen reported that they first heard about the GED program from a variety of sources. In a 1973 survey, respondents stated that they had heard about education programs from the education officer (28%), from supervisors (25%), and from company announcements or fellow servicemen (25%). These findings are in contrast to those of an earlier survey in which only 10 percent reported that they had learned of the program from the education officer and more than half had heard about it

from a company announcement or a friend. The differences between the two sets of findings probably can be explained in part by the differences between the samples and, in part, by the changes that occurred in service educational programs in the time span that separated the two surveys. The sample for the earlier survey was drawn from people who had separated from the service while subjects in the 1973 survey were on active duty at the time. Men who had left the service may have different memories of what took place than those still in the service whose experiences are more recent. With respect to program changes, the Services increasingly emphasized educational programs in the 1972-73 time period. Visits to a number of educational centers during 1973 left the writer with the clear impression that educational services officers and their staffs were very active in getting high school non-graduates into programs oriented toward either a high school diploma or a GED certificate. Outstanding examples of this activity included an Army base where all non-graduates who declined to participate in a program were required to sign a statement so stating in the presence of their commanding officers, an Air Force base where all non-graduates in the permanent party were enrolled in an educational program except one E-9 who threatened to retire if he were pressured further, and a Marine Corps base where the educational services officer routinely received printouts listing all non-graduates who were then contacted personally by the education center staff.

Encouragement to Participate

In the 1973 survey, more than 60 percent of the respondents said that they had been encouraged by their supervisors to participate in the GED or some other high school program and, in response to a separate question, almost half felt that they had been encouraged by their fellow servicemen. By contrast, in the earlier survey only 35 percent reported having received encouragement to participate. Again, the explanation for the different findings should take into account the difference between the samples and the different times at which the surveys were administered.

Reasons for Taking the GED Tests

Servicemen took the GED tests instead of taking courses to get a high school diploma because (a) they felt they could pass the tests (28%), (b) they could get a GED certificate much sooner than they could get a high school diploma (22%), (c) education office personnel suggested it (15%), (d) they did not have time to take courses (8%), and (e) for a variety of other reasons. Surprisingly few, only four percent, said that they did not like the idea of taking courses.

Preparatory Courses

In the earlier survey, 45 percent of the respondents reported that they had taken courses to prepare for the GED tests while in the 1973 survey only 18 percent said that they had taken such courses. No explanation for the difference can be found in the available data. Participants in courses reported in the 1973 survey said that they took preparatory courses because (a) it was suggested that they take them (42%), (b) they took the courses on their own initiative (28%), or (c) they were directed to take them (11%). Fifty-seven percent took most of their preparatory courses during normal duty hours, and 76 percent took them at their duty stations. Most servicemen (75%) felt that the courses had been helpful in preparing for the GED tests.

Higher ability personnel took such courses less often than those with less ability (as measured by Armed Forces Qualification Test (AFQT), and high ability personnel reportedly benefited less from preparatory courses than those with less ability. Additionally, Blacks were more apt to take preparatory courses than Whites regardless of the level of AFQT scores, and older personnel were more likely to take preparatory courses than younger personnel. Also, those who took the GED at their own request were less likely to take preparatory courses than those who took the GED as part of a special program.

When asked how preparatory courses could be improved, servicemen gave a variety of answers with the most frequently mentioned improvement being better classroom conditions (13%). Twenty percent said that there was no need for improvement.

Timing of GED Test Taking

In the earlier survey, it was found that approximately equal percentages of servicemen took the tests within each of three time periods--before, during, and after their first duty assignment with the percentages 33, 35, and 32, respectively. In the 1973 survey, these figures changed markedly to: before, 22 percent; during, 49 percent; and after, 28 percent. A much larger percentage of servicemen took the tests during their first duty assignments, and considerably fewer took them before their first assignments. The reason for the change is not known.

Obtaining a State Department of Education Certificate/Diploma

Servicemen may also qualify for an equivalency certificate/diploma from departments of education in their home states or, in some cases, the state in which they are stationed if their scores on the GED tests are high enough. In the 1973 survey, 72 percent of those who applied for state certificates reported that people from the education office had either

applied for them or helped them to apply. This contrasts to some extent with the fact that 95 percent of the educational services officers reported that they provided assistance with 61 percent stating that the education office staff filled out the application form for the serviceman's signature. Less than three-tenths of one percent of the educational services officers reported that they took no action with respect to obtaining state equivalency certificates.

Servicemen were also asked to describe the procedures for applying for certificates in terms of complexity and to report how long it took to get certificates after they had applied. Eighty percent said that the procedures were very or fairly simple, and 65 percent said that they had received the certificates less than three months after applying. However, a substantial number (16%) said that they had not yet received certificates even though they had applied more than six months ago.

III. CHARACTERISTICS OF GED PROGRAM PARTICIPANTS AND GED CERTIFICATE HOLDERS

On a DoD-wide basis, approximately 15 percent of all servicemen were found to be GED certificate holders in an analysis of the 1972 Active Duty Master Files. The percentages varied significantly by Service with Army having the highest percentage (26%) and Air Force the lowest (4%). Marine Corps and Navy had 22 and 11 percent, respectively. Service differences in proportions of GED holders undoubtedly reflect differences in recruiting policies and practices as they relate to requirements for a high school diploma. However, Services also differed in the proportions of high school non-graduates who received the GED. Air Force had the highest proportion (71%) and Marine Corps the lowest (56%). Navy and Army had 63 and 57 percent, respectively.

When the distribution of GED certificate holders was examined by pay grade in the file study, it was found that the relative numbers of certificate holders decreased steadily from pay grades E-1 to E-5 and then increased significantly at pay grades E-6 and above. This pattern held for all Services but Air Force which did not show any increase after the sharp drop in percentage from E-2 to E-3.

In a study of only Army personnel, it was found that high school diploma holders had the highest average pay grade at separation, 4.41, followed by DoD certificate holders, 4.31; state department certificate holders, 4.27; GED participants who had failed the tests, 4.13; and non-graduates who did not participate in the program, 4.10. These data were controlled for aptitude level (AFQT) and total active federal military service. The differences among groups are highly significant statistically.

Participants in the GED program (success in the program not considered) tended to be younger than non-graduates who did not participate, to have higher scores on the AFQT, to have higher educational levels, to be enlisted rather than inducted, to include relatively higher proportions of Whites (in relationship to the total Service populations), and to have higher proportions of married men (again, in relationship to the total Service populations).

The average GED recipient (successful participant) had a lower AFQT score than the average high school graduate but a higher score than the non-graduate, non-certificate holder. The average (median) AFQT percentile was 61.4 for the high school graduate, 49.7 for the GED holder, and 35.4 for the non-graduate.

In all four services, the average GED recipient was younger when he entered the service than was the high school graduate and the non-graduate who did not earn a GED. On a DoD-wide basis, the average age at entry for the high school diploma holder was 19.35, for the non-graduate 18.53, and for the GED recipient 18.38.

The GED holder was much more likely to be married than the high school graduate or the non-graduate who had not received a GED certificate. Fifty-six percent of the GED holders were married as were 49 percent of the high school graduates and 41 percent of the non-graduates.

For each service, a significantly larger proportion of White non-graduates earned a GED certificate than did Black non-graduates. The differences in the percentages of the two groups ranged from a high of 20 percent in Air Force and Marine Corps to a low of 15 percent in Army. Navy had a difference of 19 percent. When AFQT was held constant, the differences between the two groups became smaller but were still statistically significant.

In all services, the proportion of high school graduates in hard skill jobs was much higher than the proportion of GED certificate holders who, in turn, had a higher proportion in hard skill jobs than did non-graduates who did not have a certificate. For example, 61 percent of the Marines in the sample had high school diplomas while 85 percent of the Marines in hard skill jobs had diplomas. Twenty-two percent of the Marines were GED holders, but only 12 percent of those in hard skill jobs had certificates. The non-graduate, non-certificate holder was even less well represented in hard skill jobs: 17 percent of all Marines were in this category, but only four percent of those in hard skill jobs did not have either a diploma or a certificate. This same pattern holds true in all four Services.

GED certificate holders were more likely to plan to reenlist than were high school graduates and non-graduates who had not received a

certificate. On a DoD-wide basis, 79 percent of the GED recipients planned to enlist for at least one more term while only 59 percent of the high school graduates and 58 percent of the non-graduates without certificates planned to do so. However, much of the difference among the groups was attributable to the fact that the GED holders included a much smaller percentage of first termers than did the other two groups. When first termers were removed from the sample, the percentages planning to reenlist were 86 percent for GED recipients, 77 percent for high school graduates, and 74 percent for non-graduate, non-certificate holders. First termers were much less likely to plan to reenlist (23%) than men on their second or higher enlistment (79%). No differences were found among educational groups for first termers.

IV. COMPARISON OF THE PERFORMANCE OF GED CERTIFICATE HOLDERS WITH THEIR PEERS IN TECHNICAL TRAINING SITUATIONS

In a limited study which compared the performance of GED certificate holders with that of their peers in technical training courses at the U.S. Army Military Police School, GED holders were slightly above average (.22 deciles). High school graduates were two-tenths of a decile higher (.42 deciles above average), and students who had education over and beyond the high school diploma were much higher than either of these groups with a class standing 1.89 deciles above average. Students who had neither a diploma nor a certificate were much lower than the other groups with an average class standing one full decile below average.

V. CHARACTERISTICS OF SERVICEMEN ASPIRING TO THE GED CERTIFICATE AS THE HIGHEST EDUCATIONAL LEVEL TO BE ACHIEVED

When asked to report the highest educational level they expected to reach in their lifetime, slightly less than six percent of a group of servicemen named the GED certificate. Of these, 58 percent already had certificates and accordingly planned no additional credential oriented activity. Men in this group differed from their peers on a number of characteristics. First, they were both younger and older than their peers. There were proportionally more of them 18 years old and younger and proportionally more 34 years old and older. Some of the other differences were closely associated with the older age groups.

1. Proportionally more of them were married--63 percent compared with 57 percent for the total sample.

2. They had more dependents--an average of 2.39 compared with the average of 1.59 for the total sample.

3. They had more service experience--34 percent were in their third or fourth enlistment compared with 17 percent for the sample.

They also differed from their peers on characteristics which are not necessarily associated with age.

1. They were more likely to plan a service career--50 percent compared with 41 percent for the sample.

2. More of them were ineligible to reenlist--11 percent versus five percent for the sample.

3. Fewer of them liked school--22 percent versus 45 percent for the sample.

4. Fewer cited personal satisfaction as a reason for getting more education--12 percent versus 18 percent for the sample.

5. Fewer believed education to be important for civilian jobs--80 percent versus 89 percent for the sample.

6. More of them cited military promotions as a reason for further education--26 percent versus 16 percent for the sample.

VI. THE POST SERVICE AND IN-SERVICE COMPARATIVE UTILITY OF THE GED CERTIFICATE AND THE HIGH SCHOOL DIPLOMA

Colleges and universities, employers, labor unions, and servicemen were asked to compare the GED certificate with the high school diploma in a variety of circumstances. In all but two of the comparisons, the high school diploma was judged to be the superior credential.

Institutions of Higher Learning

Eighty-four percent of the colleges and universities responding to a questionnaire stated that they had educational prerequisites for admission (the remainder had open admissions policies). Approximately one out of four of these indicated that a high school diploma or one of the GED certificates (State or USAFI) would qualify an applicant for admission with no other educational prerequisite. The percentages accepting a specified credential as a sole requirement are:

1. High School Diploma 29%
2. State GED Certificate 27%
3. USAFI GED Certificate 22%

Two-year public colleges were most inclined to accept a credential as a sole requirement for admission and four-year private colleges were least inclined to do so.

The majority of the institutions in the survey stated that a credential would make an individual eligible for consideration but that other factors such as test scores, high school grade point, etc., entered into the admission decision. The percentage of these institutions accepting a designated credential as meeting at least one prerequisite for admission are:

1. High School Diploma 100%

2. State GED Certificate 98%

3. USAFI GED Certificate 85%

Four-year private colleges were more inclined to accept the GED Certificate as meeting one of the credentials for admission than were public colleges or two-year colleges.

The findings are similar to those of a study by the Commission on Accreditation of Service Experiences (CASE) of the American Council on Education (1970). They received returns from 1,728 out of 1,900 American colleges and universities and found that 86 percent would permit admission based on the GED and another eight percent qualified their ''yes'' answer is some way. As in the previous study, it was noted that for most schools evidence of a high school education is only one of several qualifications needed to enter a college or university.

Nolan (1974) did an evaluation of the Servicemen's Opportunity College (SOC). As part of his study, he mailed questionnaires to 123 educational institutions in the SOC program and received 77 returns for a 63 percent return rate. Among the questions Nolan pursued in his study were the admissions policies of schools toward service personnel who passed the GED at CASE minimums.

He found that 79 percent of the respondents said ''always'' after the SOC went into effect compared to 51 percent before SOC went into effect. Only three percent of the respondents, before and after SOC, reported that the GED was never accepted at CASE minimum levels.

Sharon (1972a,b) provides data on the responses of 1,367 GED certificate holders from 40 colleges and universities. Over half of Sharon's sample were veterans, and over one-third had taken the GED while in military service. Sharon found that GED test scores correlated significantly with college and university grades.

The implications of Sharon's studies are that a number of GED certificates holders enter college, and their performance is somewhat predictable based on their GED test performance.

Business and Industry

Employers were asked to compare high school diploma holders and GED certificate holders, both with and without job related experience, with persons who had no educational credentials but who had related experience. Comparisons were made in terms of hiring preference, ability to perform on the job, promotion potential, and advancement potential.

In terms of hiring preferences, the individual with a high school diploma and job related experience was ranked first, the one with a GED and experience second, no credential but job related experience third, a high school diploma and no experience fourth, and a GED and no experience last. Viewed from a slightly different aspect, if two job applicants both with job related experience, one with a high school diploma and one with a GED, were compared,

1. Fifty-four percent would rank the diploma above the GED,

2. Thirty-one percent would rank the two equal, and

3. Fifteen percent would rank the GED above the diploma.

When two inexperienced applicants were compared,

1. Forty-eight percent would rank the diploma above the GED

2. Thirty-four percent would rank the two equal, and

3. Eighteen percent would rank the GED above the diploma.

An applicant with both job related experience and a GED would be ranked,

1. above an applicant with only a diploma by 85 percent of the companies,

2. above an applicant with only a GED by 99 percent of the companies, and

3. above an applicant with only job related experience by 75 percent of the companies.

An applicant with job related experience but no educational credential would be rated,

1. above an applicant with only a diploma by 57 percent of the companies and

2. above an applicant with only a GED by 58 percent of the companies.

To summarize these findings, there is a clear preference for the high school diploma over the GED certificate when two job applicants are otherwise equal just as there is a preference for job related experience over educational credentials when the credential holders are inexperienced with respect to the job. However, the GED certificate while subordinate to the diploma still has considerable utility when it is held by an individual with job related experience.

Companies were asked to compare "the typical high school diploma employee" with "the typical GED employee" in terms of (1) ability, (2) promotability, and (3) potential for advancement to supervisory or management positions. Approximately half the respondents were unwilling or unable to rate one above the other. Of those who did indicate a preference, the GED employee and the high school graduate employee were rated equal where ability is concerned. However, the high school graduate was favored slightly over the GED holder for promotability, and substantially more companies favored the high school graduate for advancement to supervisory positions.

Employers were also asked whether a GED certificate could be substituted for a high school diploma when a high school education was one of the requirements of the job. In almost 90 percent of the cases, a GED certificate could be substituted for the diploma. Mining, services, manufacturing (nondurable goods), public utilities, and retail trade composed the industries most likely to accept the GED in lieu of the high school diploma while those least likely to accept the GED included finance and construction.

The particular jobs for which the GED is most likely to be accepted include:

Warehouseman	96%
Hospital Orderly	96
Transportation Worker, Driver	95
Cook, Food Service or Personal Service Worker	95
Law Enforcement, Investigative, and Protective Jobs	94

Mechanic, Repairman & Equipment Serviceman	94%
Assembler, Machine Operator	94
Craftsman & Apprentice	91
Construction Worker	90

Jobs for which the GED is least likely to be accepted include:

Manager	79%
Forester	81
Recreation Specialist	83
Technician & Lab Assistant	83
Salesman	85
Clerk	88

Labor Unions

Labor unions were also surveyed to assess the acceptability of the GED certificate. Forty-nine of 96 responding unions stated that neither a high school diploma nor a GED certificate was a consideration for membership. Of the remaining 47 unions, 46 accepted both military and state-awarded GED certificates, and the remaining one accepted the state certificate but not the USAFI certificate.

Servicemen

Servicemen were asked to compare importance of the GED certificate with the high school diploma for a number of functions in both military and civilian life. The military functions included promotions, assignments, reenlistment eligibility, admission to military technical training schools, and predicting how much a man tries to be a success in the military. Civilian functions included getting a job, admission to vocational or technical institutes or two-year colleges, and admission to colleges or universities. For military functions, the majority of respondents rated the two credentials equally important. Of those who did rate one over the other, the high school diploma was more often rated as more important than the GED certificate except for predicting how much a man tries to be a success in the military. In this instance, 15 percent thought the GED

was more important, eight percent thought the diploma was more important, 33 percent judged them equally important, 29 percent thought neither was important, and the remainder did not know. For civilian functions of getting a job and getting into a college or university, the majority of respondents felt that the high school diploma was the more important (51% and 52%), respectively, while a plurality (42%) felt the diploma was more important for getting into vocational or technical institutes or two-year colleges. An analysis of the data from a survey compared the perceptions of key NCOs (E-7 through E-9) with those of men in the lower ranks (E-1 through E-6). Key NCOs were much more likely than men of lower rank to judge the GED to be equal in importance to the diploma. The comparative percentages were 66 versus 53 for promotions, 65 versus 50 for assignments, and 70 versus 54 for technical schools. When key NCOs did have a preference for one credential over the other, the high school diploma was selected by the vast majority. Key NCOs were also much less likely than other enlisted ranks to state that neither credential was important.

The majority of servicemen accurately reflected the positions of the services in rating the two credentials equal since policies in all four services call for the GED certificate to be treated as the equivalent of the high school diploma. However, it is surprising that in view of these policies, a substantial number of servicemen regarded the high school diploma as more important than the GED certificate (about 18% for promotions, assignments, and technical training). There are at least two possible explanations for this although an answer cannot be obtained from existing data: (1) In practice but not in policy, the services do favor the diploma over the GED certificate, or (2) the respondents selecting the diploma may be reflecting their own generalized feelings about the two credentials rather than reflecting service policies.

In comparing the USAFI GED certificate with the equivalency certificate issued by state departments of education, a majority of servicemen (58%) perceived the two as equally important for military purposes. For civilian purposes, many fewer (35%) men considered the two credentials equal. In both cases, those who had a preference selected the state educational department certificate by a wide margin.

VII. IMPACT OF PASSING THE GED TESTS

Attaining a GED certificate had a beneficial effect for the majority of servicemen who received one. When asked in the 1973 survey if their lives in the military had improved as a result of passing the tests, 21 percent of those who had received certificates reported a great deal of improvement, 25 percent reported some improvement, and 13 percent reported a little improvement. However, a significant number (41%) reported no improvement.

The total group which included servicemen who had taken and failed the tests was asked if they knew of any cases where another man's life, military or civilian, had improved as a result of passing the tests. Fifty-two percent reported that they knew of one or more such cases.

When asked how life in the military differed after passing the tests, 35 percent who attained certificates said that they had more confidence in their ability to get ahead, and another 33 percent reported that they just felt better personally. Ten percent said they got more respect from supervisors, fellow servicemen, or friends. However, 22 percent said they felt no difference.

Servicemen who had left the service were asked in the earlier survey if they felt that getting a GED certificate had helped them in the service. When considering overall benefits, 68 percent reported that it had been helpful. The servicemen in this sample were divided into two groups--those who had received DoD certificates and those who had received a certificate from a state department of education which represents a higher level of achievement than the DoD certificate. It is interesting, but unexplainable, that more of those who had received state certificates were negative than those who had received only DoD certificates. Fifty-nine percent of the State certificate holders felt that the certificate had helped while 78 percent of the DoD certificate holders felt that it had helped.

In this same survey, it was found that GED certificate holders attained a higher civilian salary level than high school non-graduates without a certificate. However, those veterans who received an official state certificate were more successful than those who received only the USAFI GED certificate. Surprisingly, holders of State certificates had higher average weekly income than did high school diploma holders. It was also found that veterans with higher educational credentials were employed in different occupations than those with lower educational attainment. Generally, those with higher educational levels were more likely to be employed in professional, managerial, technical, clerical, sales, and service occupations and less likely to be employed in farming, fishing, forestry, processing, and miscellaneous occupations.

VIII. SUMMARY AND CONCLUSIONS

The general conclusion resulting from the synthesis of research findings on the military General Educational Development Program is that the program had utility on both the in-service and post-service environments. The GED certificate issued by the United States Armed Forces Institute was regarded less highly than a high school diploma obtained through conventional means and less highly than a certificate or diploma issued by state departments of education on the basis of GED tests, but was

regarded much more highly than no credential to indicate completion of secondary education.

In-service, the GED certificate was accepted officially as meeting the requirements for a secondary education credential in all situations in which such a credential was required. Perceptually, the majority of servicemen regarded a secondary education credential as being of importance in military personnel actions and considered the GED certificate as important as the high school diploma. However, for those servicemen who reported a preference, the high school diploma was favored.

The utility of the GED certificate in the post-service environment was judged on the basis of reports from institutions of higher learning, employers, labor unions, and on the perceptions of servicemen on active duty and those who had separated from the service. The certificate was reported to have wide but not universal acceptance by colleges and universities and by employers: the relatively small number of unions requiring an educational credential was almost universal in accepting the certificate in lieu of the diploma.

GED certificate holders differed from their peers, high school diploma holders, on one hand and non-certificate, non-diploma holders on the other, on a number of characteristics. In terms of performance, they were more likely to plan to reenlist for at least one more term, they were less likely to be in hard skill jobs than high school diploma holders but more likely to be in those jobs than non-graduate, non-certificate holders; they had higher pay grades at separation than non-graduates who had failed the program and non-graduates who did not participate in the program but lower pay grades than diploma holders. The relative number of certificate holders decreased from pay grades E-1 to E-5 and then, except for Air Force, increased significantly at pay grades E-6 and above.

In terms of personal characteristics: they had lower aptitudes on the average as measured by the AFQT than diploma holders but higher aptitudes than non-graduate/certificate holders; they were younger when they entered the service than either of their peer groups; they were more likely to be married and to have more dependents than either of their peer groups; they were less likely to have liked school than diploma holders, and less likely to believe that education was important.

The impact of attaining a GED certificate was reported to be favorable by a majority of certificate holders and was also perceived to be favorable by a majority of non-certificate holders (including both diploma holders and non-graduates) and by education office personnel. The major thrusts of the favorable impact were increased confidence in personal ability and increased feelings of general well-being. Education office personnel frequently perceived the major benefit to be that of having a successful educational experience; in many cases, for the first time.

Finally, it is recommended that the impact of the disestablishment of USAFI and the consequent abolition of the military GED program be studied to answer such questions as: What are the current and projected requirements for secondary education level programs? Do diploma-oriented programs such as PREP and those offered by local cooperating school systems and the GED programs offered by state departments of education afford educational opportunities which equal or surpass those afforded in the past by the military GED programs?

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